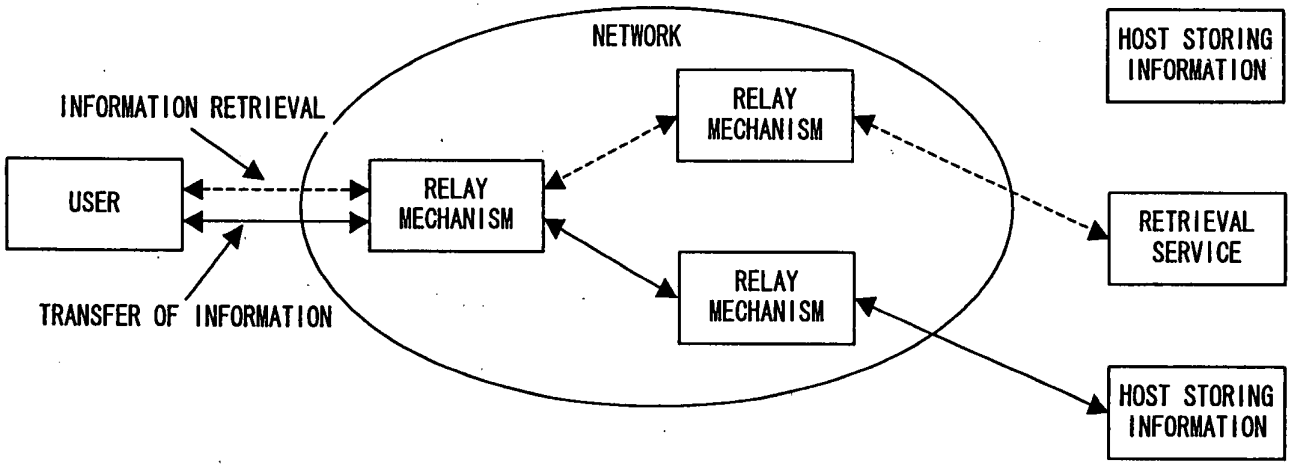


FIG. 1 PRIOR ART

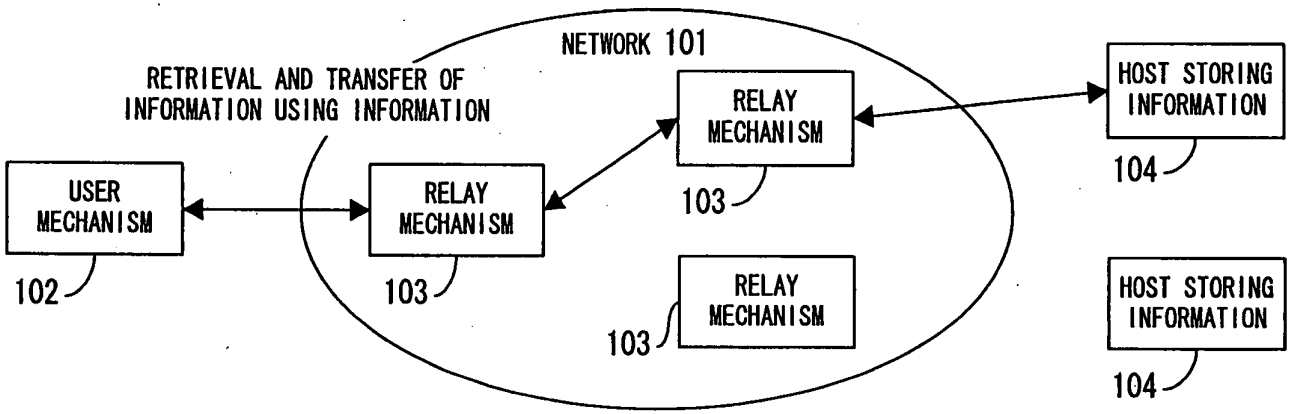

NETWORK 101
RETRIEVAL AND TRANSFER OF INFORMATION USING INFORMATION
USER MECHANISM
102
RELAY MECHANISM
103
RELAY MECHANISM
103
RELAY MECHANISM
103
HOST STORING INFORMATION
104
HOST STORING INFORMATION
104

FIG. 2

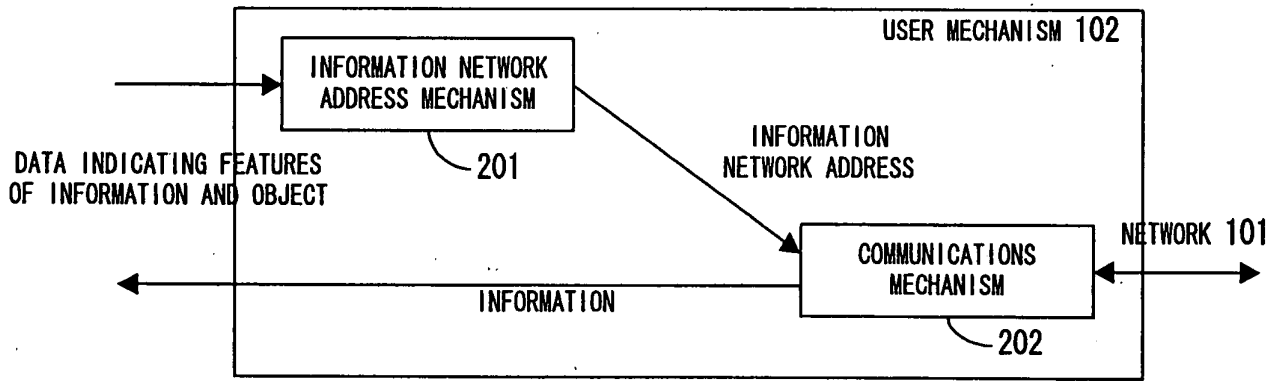

USER MECHANISM 102
INFORMATION NETWORK ADDRESS MECHANISM
201
DATA INDICATING FEATURES OF INFORMATION AND OBJECT
INFORMATION NETWORK ADDRESS
COMMUNICATIONS MECHANISM
202
NETWORK 101
INFORMATION

FIG. 3

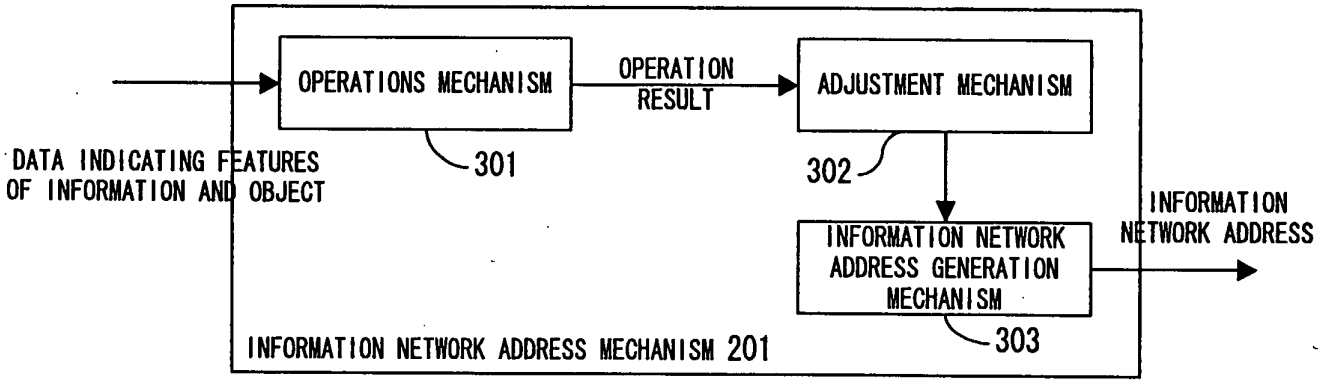

OPERATIONS MECHANISM
OPERATION RESULT
ADJUSTMENT MECHANISM
DATA INDICATING FEATURES OF INFORMATION AND OBJECT
301
302
INFORMATION NETWORK ADDRESS GENERATION MECHANISM
303
INFORMATION NETWORK ADDRESS
INFORMATION NETWORK ADDRESS MECHANISM 201

FIG. 4

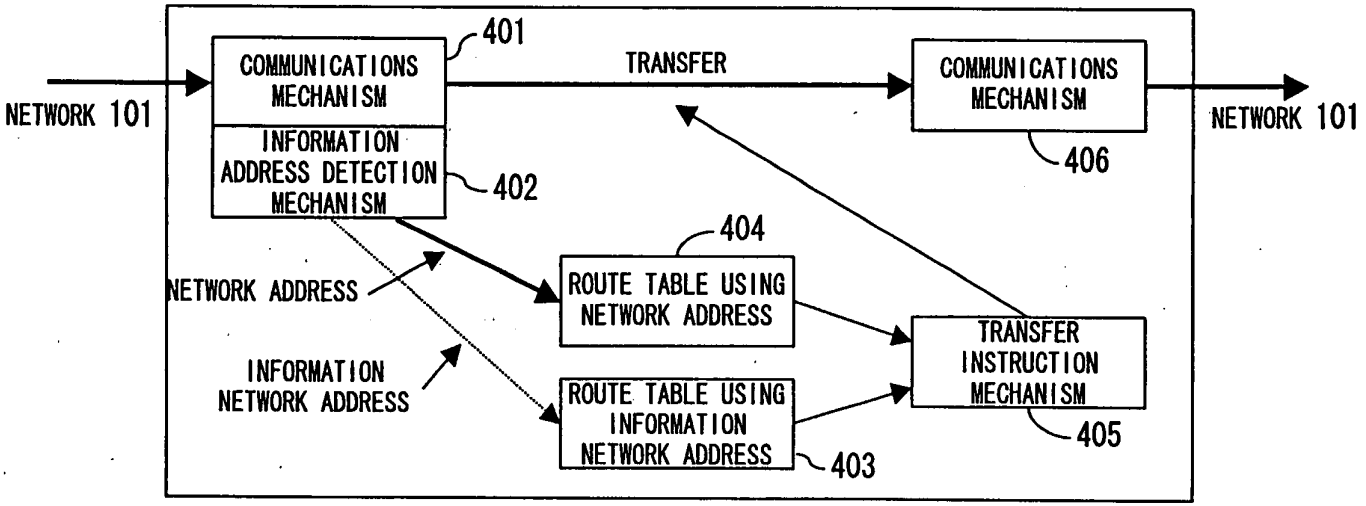
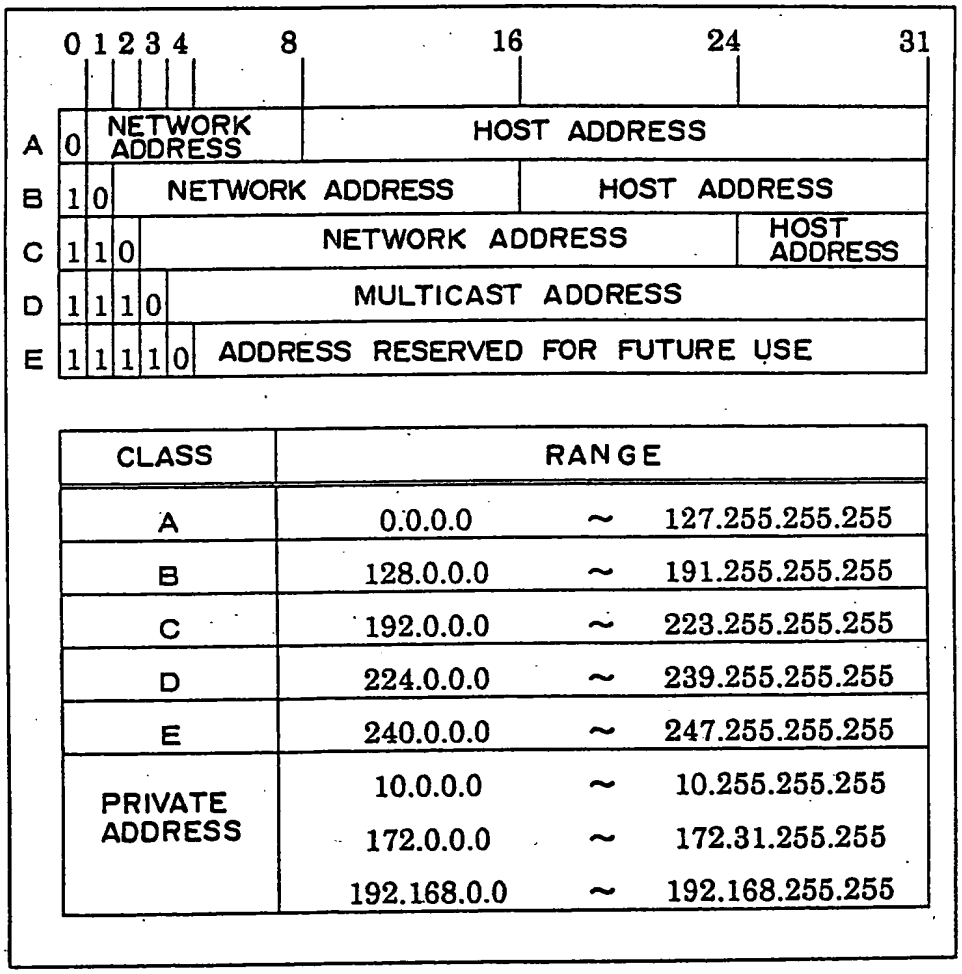

NETWORK 101
COMMUNICATIONS MECHANISM
401
TRANSFER
COMMUNICATIONS MECHANISM
NETWORK 101
406
INFORMATION ADDRESS DETECTION MECHANISM
402
404
NETWORK ADDRESS
ROUTE TABLE USING NETWORK ADDRESS
TRANSFER INSTRUCTION MECHANISM
INFORMATION NETWORK ADDRESS
ROUTE TABLE USING INFORMATION NETWORK ADDRESS
405
403

FIG. 5

VERS	HLEN	TOS	TOTAL LENGTH	
IDENTIFICATION			FLAGS	FRAGMENT OFFSET
TIME TO LIVE		PROTOCOL	HEADER CHECKSUM	
SOURCE IP ADDRESS				
DESTINATION IP ADDRESS				
IP OPTIONS & PADDING				

FIG. 6



CLASS	RANGE		
A	0.0.0.0	~	127.255.255.255
B	128.0.0.0	~	191.255.255.255
C	192.0.0.0	~	223.255.255.255
D	224.0.0.0	~	239.255.255.255
E	240.0.0.0	~	247.255.255.255
PRIVATE ADDRESS	10.0.0.0	~	10.255.255.255
	172.0.0.0	~	172.31.255.255
	192.168.0.0	~	192.168.255.255

FIG. 7

NETWORK ADDRESS	MASK	RELAYED-TO LINK ADDRESS	DISTANCE
ADDRESS 1	MASK 1	RELAYED-TO LINK 1	DISTANCE 1
ADDRESS 2	MASK 2	RELAYED-TO LINK 2	DISTANCE 2
ADDRESS 3	MASK 3	RELAYED-TO LINK 3	DISTANCE 3
...	...	...	...

FIG. 8

INFORMATION NETWORK ADDRESS	RELAYED-TO LINK ADDRESS	DISTANCE
ADDRESS 1	RELAYED-TO LINK 1	DISTANCE 1
ADDRESS 2	RELAYED-TO LINK 2	DISTANCE 2
ADDRESS 3	RELAYED-TO LINK 3	DISTANCE 3
...	...	...

FIG. 9

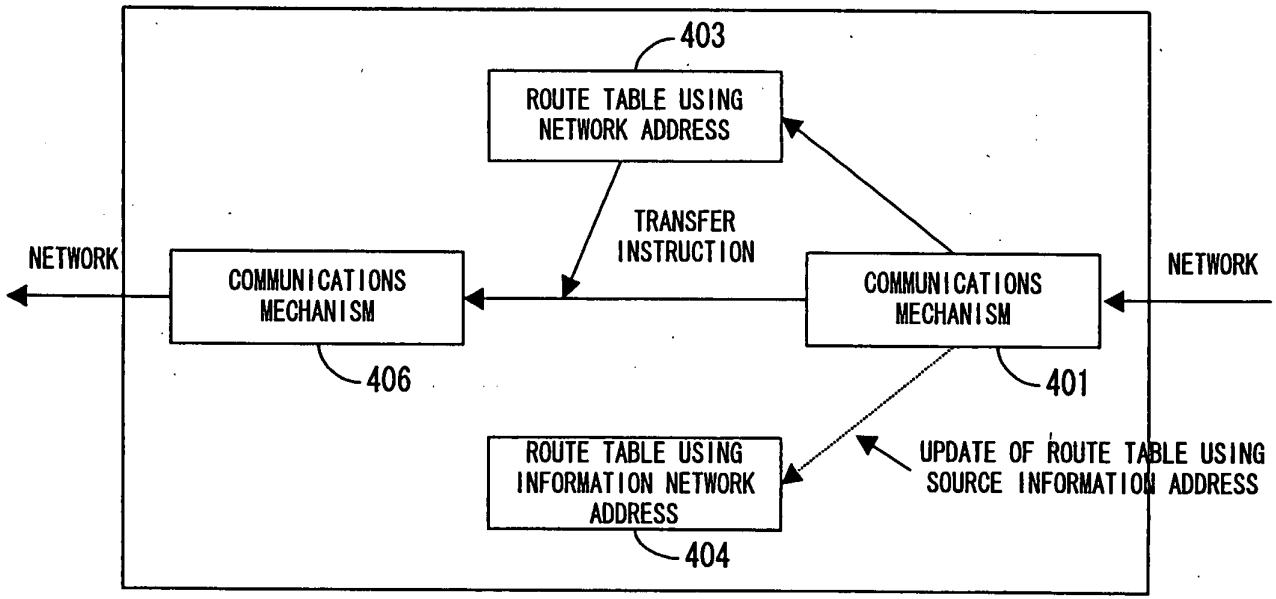

403
ROUTE TABLE USING NETWORK ADDRESS
TRANSFER INSTRUCTION
NETWORK
COMMUNICATIONS MECHANISM
406
COMMUNICATIONS MECHANISM
401
NETWORK
ROUTE TABLE USING INFORMATION NETWORK ADDRESS
404
UPDATE OF ROUTE TABLE USING SOURCE INFORMATION ADDRESS

FIG. 10

STEP	PROCESS NAME	CONTENTS OF PROCESS	STATE TRANSITION
1	PACKET RECEPTION WAITING PROCESS	WAITING FOR RECEPTION OF PACKET	RECEIVING RELAY PACKET → 2
		CHECKING RECEIVED PACKET	RECEIVING MANAGEMENT PACKET → 3
2	PACKET RECEIVING PROCESS	CHECKING DESTINATION ADDRESS	INFORMATION NETWORK ADDRESS → 2-1
			NORMAL NETWORK ADDRESS → 2-2
2-1	INFORMATION ROUTE RELAYING PROCESS	SEARCHING ROUTE TABLE USING INFORMATION NETWORK ADDRESS	→ 3
		DETERMINING OPTIMUM INFORMATION ROUTE	
		TRANSFER PACKET IF POSSIBLE	
2-2	NORMAL ROUTE RELAYING PROCESS	SEARCHING ROUTE TABLE USING NETWORK ADDRESS	→ 3
		DETERMINING OPTIMUM ROUTE	
		TRANSFERRING PACKET IF POSSIBLE	
3	INFORMATION ROUTING PROCESS	CHECKING RECEIVED PACKET	WHEN MANAGEMENT PACKET IS RECEIVED → 3-1
			WHEN RELAY PACKET IS RECEIVED → 3-2
3-1	ROUTE UPDATING PROCESS USING MANAGEMENT PACKET	UPDATING ROUTE TABLE USING INFORMATION NETWORK ADDRESS AND ROUTE TABLE USING NETWORK ADDRESS AT INSTRUCTION OF MANAGEMENT PACKET	→ 1
3-2	SOURCE ADDRESS CHECKING PROCESS	CHECKING SOURCE ADDRESS OF RELAY PACKET	INFORMATION NETWORK ADDRESS → 4
			NORMAL NETWORK ADDRESS → 1
4	INFORMATION ROUTE UPDATING PROCESS	UPDATING ROUTE TABLE USING INFORMATION NETWORK ADDRESS FOR INFORMATION ROUTE IN DIRECTION OF LINK THROUGH WHICH RELAY PACKET IS RECEIVED	→ 1

FIG. 11